

REMARKS

Claims 9-11, 13, 15, 17, 19, 21, 23 and 25-27 are now pending. By this Amendment, claims 9, 10 and 23 are amended; claims 2, 6, 12, 14, 16, 18, 20, 22 and 24 are canceled; and claims 25-27 are added.

Claims 2, 6 and 9-24 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with a written description requirement. Applicants respectfully traverse the rejection.

Claims 9, 10 and 23 recite that the hydrophilic group has affinity for the microorganisms and that the hydrophobic group adsorbs the exogenous endocrine-disrupting chemical. Support for these concepts can be found in the present specification as originally filed at page 3, line 21-page 4, line 5. Since support for the claim language can be found in the original specification, the written description rejection should be reconsidered and withdrawn.

Claims 9-23 are rejected under 35 U.S.C. §112, first paragraph, because the specification allegedly does not reasonably provide enablement for the scope of claims 9, 10 and 23. Claims 9, 10 and 23 have been amended herein to incorporate the features of previous claims 2, 6 and 24, respectively, which have not been rejected on the basis. Therefore, the enablement rejection should be reconsidered and withdrawn.

Claim 23 is rejected under 35 U.S.C. §112, second paragraph. Claim 23 has been amended to recite that the microorganisms are immobilized within the polymer. Based on this amendment, the rejection under 35 U.S.C. §112, second paragraph, should be reconsidered and withdrawn.

Claims 6, 10, 13, 14, 17, 18 and 21-24 are rejected under 35 U.S.C. §102 over Sumino et al. Claims 10 and 23 have been amended to recite that the prepolymer and polymer, respectively, each has a single type of hydrophilic group and a single type of hydrophobic group. Sumino does not teach a method according to claims 10 or 23, or the product formed by the

method of claim 10, as recited in claim 13. Therefore, the rejection of claims 9, 13 and 23 and of claims 17 and 21, which depend on claim 13, should be reconsidered and withdrawn.

Claims 2, 9, 11, 12, 15, 16, 19 and 20 are rejected under 35 U.S.C. §103 over Sumino et al. in view of Guttag. Applicants respectfully traverse the rejection.

Sumino teaches an oligomer having a particular structure. Sumino teaches that microorganisms can adhere to and grow on the surface of a hydrous gel produced by polymerizing the oligomer. In addition, Sumino teaches that a hydrous gel containing entrapped microorganisms can be formed by mixing microorganisms with the oligomer and polymerizing. Furthermore, Sumino teaches that environmental pollutants can be decomposed using the hydrous gel containing microorganisms. See the Abstract.

Sumino does not teach or suggest a method of producing a microorganism-immobilized carrier comprising mixing microorganisms, a hydrophilic prepolymer having a hydrophilic group and a hydrophobic prepolymer having a hydrophobic group; and polymerizing the hydrophilic and hydrophobic prepolymers, as recited in claim 9. In addition, Sumino does not teach or suggest a microorganism-immobilized carrier produced by the method of claim 9, as recited in claim 11. A polymer of the oligomers described in Sumino would clearly be different from a microorganism-immobilized carrier produced by the method of claim 9, which involves the mixing of hydrophilic and hydrophobic prepolymers.

Guttag does not overcome the deficiencies of Sumino. In particular, Guttag does not teach or suggest a process comprising mixing microorganisms, a hydrophilic prepolymer having a hydrophilic group and a hydrophobic prepolymer having a hydrophilic group; and polymerizing the hydrophilic and hydrophobic prepolymers, as recited in claim 9. Instead, Guttag teaches the polymerization of monomers. In addition, Guttag does not teach or suggest a microorganism-immobilized carrier produced by the method of claim 9, as recited in claim 11.

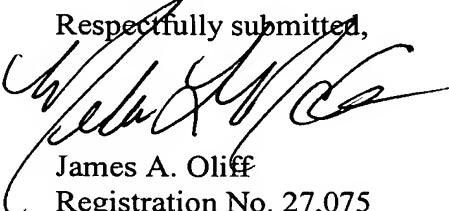
Furthermore, there would have been no motivation to combine Sumino with Guttag. In particular, neither Sumino nor Guttag teach or suggest that the method described in Guttag, which as noted above is different from the method described in claim 9, could be used to form the specific structures described in Sumino. In addition, even if the method described in Guttag could be used to form the structure of a comparative example of Sumino, it is noted that the resulting polymer would not be the same as the polymer that would result from the method of claim 9, which contains segments from hydrophobic prepolymers and segments from hydrophilic prepolymers.

Sumino does not teach or suggest the method of claim 9. In addition, Sumino does not teach or suggest a carrier produced by the method according to claim 9, as recited in claim 11. In addition, Guttag does not overcome the deficiencies of Sumino. Therefore, the rejection of claims 9 and 11, and claims 15 and 19, which depend on claim 11, should be reconsidered and withdrawn.

Claims 25-27 have been added herein to further define the invention. Claims 25-27 depend from claim 9, 10 and 23, respectively, and are therefore patentable for at least the reasons discussed above.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 9-11, 13, 15, 17, 19, 21, 23 and 25-27 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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